

CLAIMS:

1.(canceled)

2.(currently amended) The device as recited in claim [1] 8 wherein said water containing means includes a storage tank.

3.(currently amended) The device as recited in claim [1] 8 wherein said heated water removal controlling means includes a plurality of valves actuated by programmable logic controllers.

4.(currently amended) The device as recited in claim [1] 8 wherein said direct contact water heater includes exhaust gas from a gas-fired combustion.

5.(previously presented) The device as recited in claim 4 wherein said direct contact water heater includes a zone for reducing exhaust gas pressure.

6.(currently amended) The device as recited in claim [1] 8 wherein said direct contact water heater includes an antimicrobial substrate.

7.(currently amended) The device as recited in claim [1] 8 wherein said direct contact water heater includes means for heating pathogen laden water to a temperature below its boiling point.

8.(currently amended) A pathogen reduction device for water comprising:

a) a direct contact water heater for heating pathogen laden water;

b) means for controlling pathogen laden water flow into said direct contact water heater,

said pathogen laden water flow having a maximum flow rate defined by the following algorithm:

~~The device as recited in claim 1 wherein said pathogen laden water flow controlling means includes the following algorithm:-~~

BTU/hr of the heater / (Y x delta T)
wherein

delta T = (Required kill temperature - Coldest possible inlet fluid temperature) and where

Y is derived from the following formula:

(Specific heat of the fluid to be heated X Weight of the fluid to be heated X minutes in one hour);

5 c) means for containing water heated by said direct contact water heater;

d) means for controlling the removal of heated water from said water containing means;
and

e) means for reducing pathogens in an exhaust gas discharged from said direct contact water heater to atmosphere.

10 9.(canceled)

10.(currently amended) The method as recited in claim [9] 13 wherein the direct contact fluid heater has a positive pressure flow leading to the ambient environment.

11.(currently amended) The method as recited in claim [9] 13 wherein the fluid is water.

12.(currently amended) The method as recited in claim [9] 13 wherein the temperature is below
15 the condensation point of the fluid.

13.(currently amended) A method for reclaiming fluid contaminated with pathogens, the method comprising:

a) providing a direct contact fluid heater for heating a pathogen laden fluid, said pathogen laden fluid having a maximum flow rate into said direct contact fluid heater defined by the
20 following algorithm:

~~The method as recited in claim 9 wherein the direct contact fluid heater includes means for injecting the fluid into the direct contact fluid heater at a fluid flow defined by the following algorithm:~~

25 BTU/hr of the heater / (Y x delta T)
wherein

$\Delta T = (\text{Required Kill Temperature} - \text{Coldest possible inlet fluid temperature})$

and where Y is derived from the following formula:

(Specific heat of the fluid to be heated X Weight of the fluid to be heated X minutes in one hour);

- 5 b) subjecting the pathogen laden fluid to heat for a time sufficient to kill pathogens entrained in a liquid phase of the pathogen laden fluid;
- c) subjecting an aerosolized phase of the pathogen laden fluid to an antimicrobial substrate; and
- 10 d) releasing the subjected liquid phase and the subjected aerosolized phase to the ambient environment.

14.(currently amended) The device as recited in claim [1] 8 wherein said atmosphere exhaust pathogens reducing means for reducing pathogens in an exhaust gas includes a [spray] spray curtain disposed above a main water feed nozzle.

15 15.(currently amended) The method as recited in claim [9] 13 wherein the step of providing a direct contact water heater includes the step of providing exhaust gas for engaging the pathogen laden fluid.

16.(currently amended) The method as recited in claim [9] 13 wherein the step of subjecting an aerosolized phase includes the step of decreasing the pressure of said aerosolized phase.

20 17.(currently amended) The method as recited in claim [9] 13 wherein the step of subjecting an aerosolized phase includes the step of providing a containment spray curtain.

18.(currently amended) A method for removing pathogens from water, said method comprising the steps of:

- a) engaging falling pathogen laden water with rising heated exhaust gas in an enclosure

with an atmosphere exhaust aperture;

b) controlling the pathogen laden water flow into said enclosure, said pathogen laden water flow having a maximum flow rate defined by the following algorithm:

$$\frac{\text{BTU/hr of the heater}}{(Y \times \text{delta T})}$$

5 wherein

$$\text{delta T} = (\text{Required Kill Temperature} - \text{Coldest possible inlet fluid temperature})$$

and where Y is derived from the following formula:

(Specific heat of the fluid to be heated X Weight of the fluid to be heated X minutes in one hour).

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c) controlling the removal of treated water from said enclosure; and

d) removing pathogens from pathogen laden water vapor inside said enclosure.

19.(previously presented) The method as recited in claim 18 wherein the step of removing pathogens from water vapor includes the step of engaging the pathogen laden water vapor to a toxic media bed.

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20.(previously presented) The method as recited in claim 18 wherein the step of removing pathogens from water vapor includes the step of providing a containment spray curtain.